TRU COMPONENTS 2144019 Time Switch For DIN Rail Instruction Manual

Contents

TRU COMPONENTS 2144019 Time Switch For DIN Rail

Specifications

- Item no. 2144019
- Item no. 2144026
- **Intended use:** Time switch for controlling electrical systems
- 20 programmable memory spaces in blocks (on/off)
- Manual switchover of time display from summer to winter time and vice versa
- Time correction factor adjustment
- Countdown timer functionality
- Standalone installation in a control cabinet with a symmetrical 35 mm profile
- Designed according to EN 60715 standard (DIN rail)
- Indoor use only, do not use outdoors or in moist environments

Product Usage Instructions

Safety Information

Read the operating instructions and safety information carefully. Failure to follow the safety information and proper handling instructions may result in personal injury or damage to property.

Installation and Connection

1. Mount the time switch on a DIN-compliant rail by carefully pulling the locking lever downwards slightly, clicking the lock onto the rail, and releasing it.

2. Connect the time switch according to the provided connection diagram.
3. Clamp the connecting wires in place and use a Phillips screwdriver to tighten the screws.

Intended use

- This product is a time switch for controlling electrical systems. The time switch has 20 programmable memory spaces in blocks (on/off). Manual switchover of the time display from summer to winter time and vice versa as well as time correction factor adjustment are possible.
- A countdown timer can also be set. The time switch is designed for standalone installation in a control cabinet by means of a symmetrical 35 mm profile in accordance with the EN 60715 standard (DIN rail).
- This product is intended for indoor use only. Do not use it outdoors. Contact with moisture (e.g. in a bathroom) must be avoided under all circumstances.
- For safety and approval purposes, do not rebuild and/or modify this product. Using the product for purposes other than those described above may damage the product. In addition, improper use can cause hazards such as a short circuit, fire or electric shock. Read the operating instructions carefully and store them in a safe place. Only make this product available to third parties together with its operating instructions.
- This product complies with statutory, national and European regulations. All company and product names contained herein are trademarks of their respective owners. All rights reserved.

Package contents

- Time switch
- Operating instructions

Up-to-date operating instructions
To download the latest operating instructions, visit **www.conrad.com/downloads** or scan the QR code on this page. Follow the instructions on the website.

Explanation of symbols

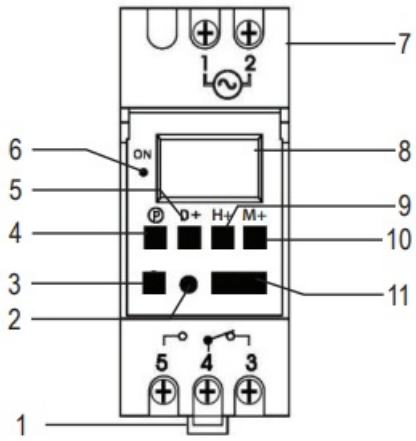
- The symbol with the lightning in a triangle indicates that there is a risk to your health, e.g. due to an electric shock.
- The symbol with an exclamation mark in a triangle is used to highlight important information in these operating instructions. Always read this information carefully.
- The arrow symbol indicates special information and tips on how to use the product.

Safety information

Read the operating instructions and safety information carefully. If you do not follow the safety information and information on proper handling in these op-erating instructions, we will assume no liability for any resulting personal in-jury or damage to property. Such cases will invalidate the warranty/guarantee.

- **a) General information**
  - Protect the product from extreme temperatures, direct sunlight, strong jolts, high humidity, moisture, flammable gases, vapours and solvents.
  - Do not place the product under any mechanical stress.
  - This product is not a toy. Keep it out of the reach of children and pets.
- **b) Installation**
  - The installation work may only be carried out by a qualified expert familiar with the hazards involved and with the corresponding regulations.
  - Before connecting the device, turn off the power circuit to which the device is to be connected. Remove the corresponding main fuse or trip the automatic fuse.
  - Ensure that all corresponding cables are dead. Ensure that the cables are isolated and that the contact points are covered. Never use bare wires for the connection.
  - The device is protected internally against interference through a protective circuit. Despite these protective measures, very strong magnetic fields may impair its function.
  - Interference can be avoided by observing the following installation rules:
    - Do not install the device near inductive loads (e.g. motors, transformers or con-tactors).
    - The power should be supplied via a separate mains circuit (with a mains filter if required).
    - Inductive loads must be equipped with protective devices to reduce overvoltages (varistors, RC filters).
  - Check whether interference signals are emitted when the time switch is used together with other devices in a system.
- **c) Connected devices**
  - Always observe the safety instructions and operating instructions of any other devices that are connected to the product.

Product overview

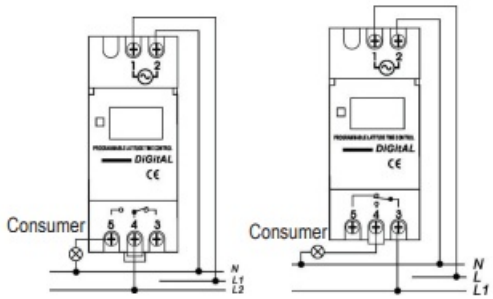


1. Load connection
2. RESET button
3. button
4. button

5. **D+** button
6. LED indicator
7. Operating voltage connection 8 LC display
8. **H+** button
9. **M+** button
10. MANUAL button

Installation and connection

1. Mount the time switch on a DIN-compliant rail. Carefully pull the locking lever downwards slightly. Click the lock on the rail and let go again.
2. Connect the time switch according to the connection diagram. Clamp the connecting wires in place. Use a Phil-lips screwdriver to tighten the screws.



Item no. 2144019 Item no. 2144026

Operation and programming

- Open the cover to reveal the controls.
- Close the cover when you have finished configuring the settings.

a) Switching on/off and reset

- Press the RESET button (2) to activate the time switch. All display elements appear briefly and the clock starts. The operation LED (6) lights up when the device is switched on.
- Press the RESET button when the time switch is in use to reset the settings.
- To switch the time switch off, press and hold the D+ (5) and H+ (9) buttons for approx. 3 seconds. All settings except the time correction factor, operating time and switching times are deleted.

b) Basic settings: Setting the current time and day

1. Press and hold the button (3) and press the H+ button (9) to increase the hours incrementally. Press and hold the H+ button continuously to increase the hours in quick succession.
2. Press and hold the button and press the M+ button (10) to increase the minutes incrementally. Press and hold the M+ button continuously to increase the minutes in quick succession.
3. Press the D+ (5) buttons to switch through the loop of possible weekdays. Press and hold the M+ button continuously to switch through the week setting symbols in quick succession.

4. The time switch is factory set to 24-hour format. To switch to the 12-hour format, press and hold the button for 5 seconds. The ‘AM’ or ‘PM’ symbol for before noon or afternoon is displayed on the LC display (8).
5. To return to 24-hour format, press and hold the button again for 5 seconds. The ‘AM’ or ‘PM’ symbol disappears from the LC display and the time switch returns to 24-hour mode.

c) Setting switching intervals

- A total of 20 switching intervals can be set and stored. One switching interval consists of 2 switching options: ON and OFF.

The settings for ON/OFF switching times cannot overlap and must follow the natural timeline. If this does happen, e.g. the switch-on and switch-off time are set the same, 15.00 hrs on/15.00 hrs off, the time switch switches the current at the relay output on at the switch-on time before switching it off again after 15 seconds. If you connect an appropriate audible or visual warning device to the output, a corresponding warning signal is emitted.

1. Press and hold the Ⓟ button (4) for approx. 1 second to switch to the switch-on time of the first programme. The ‘ON’ symbol is displayed on the LC display (8) with the memory number of the switching interval.
2. Press the D+ button (5) to set the days on which the switch-on operation should occur. The day combinations of ‘MO-FR’, ‘MO-SA’, ‘SA-SU’, ‘MO-WE’, ‘TH-SA’, ‘MO WE FR’, ‘TU TH SA’ can be selected. In the loop, press the button until the desired weekday combination is displayed.
3. Press the H+ button (9) to set the hours for the time at which the switch-on operation should occur. Press the MANUAL button (11) to reset a set/displayed programme time.
4. Press the M+ button (10) to set the minutes for the time at which the switch-on operation should occur.
5. Press the MANUAL button (11) to reset a set/displayed programme time while setting.
6. Press and hold the Ⓟ button (4) for approx. 1 second to switch to the switch-off time of the first programme. The ‘OFF’ symbol is displayed on the LC display (8) with the memory number of the switching interval.
7. Press the H+ (9) or M+ button (10) to set the time (hours, minutes) at which the switch-off operation should occur.
8. Press and hold the Ⓟ button (4) for approx. 1 second to switch to the next program memory space. The next memory number of the switching interval is displayed on the LC display (8). You can now set the days and/or switch-on and switch-off times for each desired programme storage space in the same way.
9. Press the button (3) to cancel a setting at any time. The LC display (8) returns to the normal time display.
10. After completing the program setting, press the MANUAL button (11) to activate programming. ‘ON AUTO’ or ‘AUTO OFF’ is displayed.
11. You can change your settings as described above.

d) Setting switching pulse programmes

1. Press and hold the H+ (9) and M+ (10) buttons for approx. 3 seconds to set the switching pulses. The ‘P’ symbol is displayed on the LC display (8) with the pulse duration ‘0:00’.
2. Press and hold the button (3) and press the M+ button (10) to increase the minutes of the pulse duration incrementally. Press and hold the M+ button continuously to increase the minutes in quick succession.

3. Press and hold the button and press the H+ button (9) to increase the seconds of the pulse duration. Press and hold the H+ button continuously to increase the seconds in quick succession.
4. Press the (3) and MANUAL (11) buttons to confirm the pulse duration setting. The ‘P’ icon flashes and the pulse duration minutes/seconds, e.g. ‘5:45’, are shown on the LC display (8). The maximum duration of a switching pulse is 59 minutes and 59 seconds.
5. Press the button (4) to set the switch-on time for the first switching pulse. The ‘ON’ symbol is displayed on the LC display (8) with the memory number of the switching pulse.
6. Press the H+ button (9) to increase the hours of the switch-on time incrementally and the M+ button (10) to increase the minutes of the switch-on time incrementally. Press and hold the H+ button (9) to increase the hour digits and the M+ button to increase the minute digits in quick succession.
7. Press the D+ button (5) to set the days on which the switching pulse should occur. The day combinations of ‘MO-FR’, ‘MO-SA’, ‘SA-SU’, ‘MO-WE’, ‘TH-SA’, ‘MO WE FR’, ‘TU TH SA’ can be selected. In the loop, press the button until the desired weekday combination is displayed.
8. Press the button (4) to cancel the switching time setting or the days of a switching pulse.
9. Press the button (4) to set the switch-on time for the next switching pulse. Proceed in the same way as outlined above to set the switch-on time and the days on which the switching pulse should occur (steps 5 – 7).
10. Press and hold the H+ (9) or M+ (10) buttons for approx. 3 seconds to confirm the set switching pulses (with duration and switch-on time). The ‘P’ symbol disappears from the LC display (8) and the normal time is displayed again. Switching pulse setting is now complete.

e) Setting summertime

- Press and hold the D+ (5) and M+ (10) buttons for 3 seconds to increase the current time by one hour. The ‘1h’ symbol is displayed in the bottom left-hand corner of the LC display (8).
- Press and hold the H+ and M + buttons again to reset to normal time from summer time. The ‘1hr’ symbol disappears from the LC display.

This setting affects only the displayed current time but not the time of the set switching interval. If the programme times need to be set to summertime, set them in the programme settings of the individual switching intervals. Move all times forwards one hour individually (or backwards to reset summer time to normal time).

f) Setting, starting and resetting the countdown timer

1. Press and hold the (4) and (3) buttons for approx. 3 seconds to set the countdown timer. The timer symbol appears in the lower left of the LC display (8).
2. Press and hold the button and press the H+ button to set the minutes or the button with the M+ button to set the seconds of the timer time (can be set to 1 second up to 99 minutes 59 seconds).
3. Press the MANUAL button (11) to start the countdown timer.
4. Press the button (4) to stop the countdown timer and reset to the set start time. Press the MANUAL button to restart.
5. Press the and buttons for approx. 3 seconds to exit the countdown timer.

g) Setting the automatic time correction for each day

1. Press the Ⓟ (4) and MANUAL (11) buttons at the same time. ‘1d 00’ is displayed on the LC display (8).
2. Press the D+ button (5) to change the time correction in 0.5-second increments. A setting range of ±3 seconds is available.
3. Press the ◷ button (3) to confirm the setting and return to the normal display.

h) Selecting the switching mode
Press the MANUAL button (11) to select the respective switching mode.

- **‘ON’:** Switching intervals deactivated, relay permanently ON
- **‘ON AUTO’:** Switching intervals activated (AUTO), current switching status is ON
- **‘OFF’:** Switching intervals deactivated, relay permanently OFF
- **‘AUTO OFF’:**Switching intervals activated (AUTO), current switching status is OFF

Retrieving statistics
Press and hold the (10) and MANUAL (11) buttons at the same time to read off the elapsed time (h) and number of switching operations (P). They are displayed on the LC display (8) alternately. Multiply each value by ten to obtain the accurate values. For example, ‘h0013’ and ‘p0021’ are an elapsed total time of 130 hours and/or 210 switching operations (max. 99990 and 99990).

Care and cleaning

Use a dry, lint-free cloth to clean the product.

Disposal
a) Product

This symbol must appear on any electrical and electronic equipment placed on the EU market. This symbol indicates that this device should not be disposed of as unsorted municipal waste at the end of its service life. Owners of WEEE (Waste from Electrical and Electronic Equipment) shall dispose of it separately from unsorted municipal waste. Spent batteries and accumulators, which are not enclosed by the WEEE, as well as lamps that can be removed from the WEEE in a non-destructive manner, must be removed by end users from the WEEE in a non-destructive manner before it is handed over to a collection point.

Distributors of electrical and electronic equipment are legally obliged to provide free take-back of waste. Conrad provides the following return options free of charge (more details on our website):

- in our Conrad offices
- at the Conrad collection points
- at the collection points of public waste management authorities or the collection points set up by manufacturers or distributors within the meaning of the ElektroG

End users are responsible for deleting personal data from the WEEE to be disposed of.
It should be noted that different obligations about the return or recycling of WEEE may apply in countries outside of Germany

b) (Rechargeable) batteries

Remove batteries/rechargeable batteries, if any, and dispose of them separately from the product. According to the Battery Directive, end users are legally obliged to return all spent batteries/rechargeable batteries; they must not be disposed of in the normal household waste.

Batteries/rechargeable batteries containing hazardous substances are labelled with this symbol to indicate that disposal in household waste is forbidden. The abbreviations for heavy metals in batteries are Cd = Cadmium, Hg = Mercury, and Pb = Lead (name on (rechargeable) batteries, e.g. below the trash icon on the left).

Used (rechargeable) batteries can be returned to collection points in your municipality, our stores or wherever (rechargeable) batteries are sold. You thus fulfil your statutory obligations and contribute to environmental protection.
Batteries/rechargeable batteries that are disposed of should be protected against short circuits and their exposed terminals should be covered completely with insulating tape before disposal. Even empty batteries/rechargeable batteries can contain residual energy that may cause them to swell, burst, catch fire or explode in the event of a short circuit.

Technical data

c) Item no.: 2144019

- **Battery** ……3 V/DC, 600 mAh (CR2450)
- **Switching voltage**……Max. 250 V/AC
- **Switching current**……Max. 16 A
- **Protection rating**……IP20
- **Power reserv**e……3 years
- **Switching times**……Daily (24 hrs) and weekly programmes (7 days)
- **Relay**……1 switch connection
- **Shortest switching time**……1 min
- **Switching intervals**……max. 20
- **Dimensions (W x H x D)**……36 x 66 x 90 mm
- **Weight**……150 g

d) Item no.: 2144026

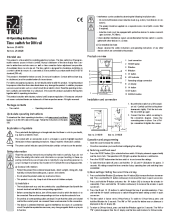
- **Battery** ……3 V/DC, 600 mAh (CR2450)
- **Switching voltage**……Max. 250 V/AC
- **Switching current**……Max. 20 A
- **Protection rating**……IP20
- **Power reserve**……3 years
- **Switching times**……Daily (24 hrs) and weekly programmes (7 days)
- **Relay.**……..1 switch connection
- **Shortest switching time**……1 min
- **Switching intervals**……max. 20
- **Dimensions (W x H x D)**……36 x 66 x 89 mm
- **Weight.**……150 g

FAQ

- **Q: Can this time switch be used outdoors?**

- No, this time switch is intended for indoor use only. Do not use it outdoors or in moist environments.
  - **Q: How many programmable memory spaces does this time switch have?**
- This time switch has 20 programmable memory spaces in blocks (on/off).
  - **Q: Can I manually switch between summer and winter time?**
- Yes, you can manually switch the time display between summer and winter time.
  - **Q: Can I set a countdown timer with this time switch?**
- Yes, you can set a countdown timer with this time switch.

Documents / Resources

	TRU COMPONENTS 2144019 Time Switch For DIN Rail [pdf] Instruction Manual 2144019 Time Switch For DIN Rail, 2144019, Time Switch For DIN Rail, Switch For DIN Rail, DIN Rail

References

- Conrad Electronic » All parts of success
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- User Manual